Claims:

What I claim is:

1. A hydrolizable polymer-containing textile article that has been chemically modified by branched chain amine treatment to achieve improved pilling resistance.

2. The textile article of claim 1, wherein the hydrolizable polymer is selected from the group consisting of polyester, wool, polylactic acid, and combinations thereof.

3. The polyester of claim 2, wherein the polyester is selected from the group consisting of polyethylene terephthalate, polytriphenylene terephthalate, polybutylene terephthalate, and combinations thereof.

4. The textile article of claim 2, wherein the article is selected from the group consisting of fibers, yarns, fabrics, films, and combinations thereof.

5. The textile article of claim 4, wherein the article is undyed.

6. The textile article of claim 4, wherein the article is dyed.

7. The textile article of claim 6, wherein the dyed article exhibits level dyeing and is substantially free from spotting.

8. The textile article of claim 4, wherein the article is a woven fabric.

9. The textile article of claim 4, wherein the article is a knit fabric.

10. The textile article of claim 4, wherein the article is a nonwoven fabric.

11. The textile article of claim 4, wherein the article is a fabric comprising substantially 100% spun polyester yarns.

12. The textile article of claim 4, wherein the article is a fabric comprising a blend of filament and spun polyester yarns.

13. The textile article of claim 4, wherein the article is a fabric comprising a blend of spun polyester yarns and other synthetic fibers.

14. The textile article of claim 13, wherein said other synthetic fibers are selected from the group consisting of polyamides, polyolefins, polyacrylics, and regenerated cellulose.

15. The textile article of claim 4, wherein the article is a fabric comprising a blend of spun polyester yarns and natural fibers.

16. The textile article of claim 15, wherein said natural fibers are selected from the group consisting of cotton, wool, linen, and flax.

17. The textile article of claim 4, wherein the article is a fabric comprising a blend of filament polyester yarns and other synthetic fibers.

18. The textile article of claim 17, wherein said other synthetic fibers are selected from the group consisting of polyamides, polyolefins, polyacrylics, and regenerated cellulose.

19. The textile article of claim 4, wherein the article is a fabric comprising a blend of filament polyester yarns and natural fibers.

20. The textile article of claim 19, wherein said natural fibers are selected from the group consisting of cotton, wool, linen, and flax.

21. The textile article of claim 4, wherein the article is a fabric comprising substantially 100% microdenier polyester filament yarns.

22. The textile article of Claim 21, wherein the microdenier polyester filament yarns are comprised of splittable, bi-component, or multi-component yarns or fibers.

23. The textile article of claim 4, wherein the article is a fabric comprising a blend of microdenier polyester filament yarns and other synthetic fibers.

24. The textile article of claim 23, wherein said other synthetic fibers are selected from the group consisting of polyester filament or staple fibers, polyamides, polyolefins, polyacrylics, and regenerated cellulose fibers.

25. The textile article of claim 4, wherein the article is a fabric comprising a blend of microdenier polyester filament yarns and natural fibers.

26. The textile article of claim 25, wherein said natural fibers are selected from the group consisting of cotton, wool, linen and flax.

27. The textile article of claim 4, wherein strength of the textile article is reduced by chemical modification.

28. The textile article of claim 27, wherein the article is a fabric and said fabric achieves at least approximately 50 pounds, but not more than approximately 90 pounds, when tested for Mullen Burst Strength according to ASTM D 3786-87.

29. The textile article of claim 4, wherein the article is substantially free from carbamate deposits.

30. The textile article of claim 4, wherein resistance to pilling of the article is increased by chemical modification.

31. The textile article of claim 30, wherein the article is a fabric and said fabric achieves a rating of at least 3.0 when tested for Random Tumble Pilling after each of 30, 60, and 90 minutes according to ASTM D 3512-99A.

32. The textile article of claim 30, wherein the article is a fabric and said fabric achieves a rating of at least 3.5 when tested for Random Tumble Pilling after each of 30, 60, and 90 minutes according to ASTM D 3512-99A.

33. The textile article of claim 30, wherein the article is a fabric and said fabric achieves a rating of at least 4.0 when tested for Random Tumble Pilling after each of 30, 60, and 90 minutes according to ASTM D 3512-99A.

34. The textile article of claim 30, wherein the article is a fabric and said fabric achieves a rating of at least 4.5 when tested for Random Tumble Pilling after each of 30, 60, and 90 minutes according to ASTM D 3512-99A.

35. The textile article of claim 30, wherein the article is a fabric and said fabric achieves a rating of at least 5.0 when tested for Random Tumble Pilling after each of 30, 60, and 90 minutes according to ASTM D 3512-99A.

36. The textile article of claim 31, wherein the article is a fabric and said fabric exhibits increased wearer comfort due to a lack of pill formation.

37. The textile article of claim 31, wherein the article is a fabric and said fabric retains its desired appearance due to a lack of pill formation.

38. The textile article of claim 31, wherein the article is a fabric and said fabric possesses extended useful life due to a lack of pill formation and increased wearer comfort and appearance retention.

39. The textile article of claim 31, wherein the article is a fabric and said fabric is incorporated into an article of apparel.

40. The textile article of claim 31, wherein the article is a fabric and said fabric is incorporated into an article of bedding.

41. The textile article of claim 31, wherein the article is a fabric and said fabric forms an article of residential upholstery.

42. The textile article of claim 31, wherein the article is a fabric and said fabric forms an article of commercial upholstery.

43. The textile article of claim 31, wherein the article is a fabric and said fabric forms an article of automotive upholstery.

44. A process for chemically modifying a hydrolizable polymer-containing textile article to improve resistance to pilling by:

    (a) Applying an effective amount of a branched chain amine to the surface of the article;
    (b) Heating the article; and
    (c) Optionally, dyeing the article by techniques known to those skilled in the art.

45. The process of claim 44, wherein the amine contains between 8 and 14 carbon atoms.

46. The process of claim 44, wherein the amine is selected from the group consisting of aliphatic amines, alkyl amines, and aliphatic substituted cyclic amines.

47. The process of claim 46, wherein the amine is a polyamine.

48. The process of claim 46, wherein the amine is a diamine.

49. The process of claim 46, wherein the alkyl amine is selected from the group consisting of Isodecyloxypropyl-1,3-diaminopropane, Isododecyloxypropyl-1,3-diaminopropane and Isotridecyloxypropyl-1,3-diaminopropane.

50. The process of claim 44, wherein the amount of amine is between about 0.05 and about 5.0 weight percent on weight of the article.

51. The process of claim 44, wherein the amount of amine is between about 0.1 and about 1.0 weight percent on weight of the article.

52. The process of claim 44, wherein the amount of amine is between about 0.2 and about 0.7 weight percent on weight of the article.

53. The process of claim 44, wherein the amine is applied uniformly to the surface of the article.

54. The product of the process of claim 44.

55. The product of the process of claim 45.

56. The product of the process of claim 46.

57. The product of the process of claim 47.

58. The product of the process of claim 48.

59. The product of the process of claim 49.

60. A process for chemically modifying a hydrolizable polymer-containing textile article to improve resistance to pilling by:

(a) Applying an effective amount of a branched chain amine to the surface of the article;
(b) Heating the article to a temperature between about 200 and 300 degrees F;
(c) Maintaining the temperature from between about 5 and 60 minutes;
(d) Cooling the article to a temperature between about 120 and 180 degrees F;
(e) Rinsing the article with water and an acidic solution; and
(f) Optionally, dyeing the article by techniques known to those skilled in the art.

61. The process of claim 60, wherein the amine contains between 8 and 14 carbon atoms.

62. The process of claim 60, wherein the amine is selected from the group consisting of aliphatic amines, alkyl amines, and aliphatic substituted cyclic amines.

63. The process of claim 62, wherein the amine is a polyamine.

64. The process of claim 62, wherein the amine is a diamine.

65. The process of claim 62, wherein the alkyl amine is selected from the group consisting of Isodecyloxypropyl-1,3-diaminopropane, Isododecyloxypropyl-1,3-diaminopropane and Isotridecyloxypropyl-1,3-diaminopropane.

66. The process of claim 60, wherein the amount of amine is between about 0.05 and about 5.0 weight percent on weight of the article.

67. The process of claim 60, wherein the amount of amine is between about 0.1 and about 1.0 weight percent on weight of the article.

68. The process of claim 60, wherein the amount of amine is between about 0.2 and about 0.7 weight percent of the article.

69. The process of claim 60, wherein the amine is applied uniformly to the surface of the article.

70. The product of the process of claim 60.

71. The product of the process of claim 61.

72. The product of the process of claim 62.

73. The product of the process of claim 63.

74. The product of the process of claim 64.

75. The product of the process of claim 65.

76. A process for chemically modifying a hydrolizable polymer-containing textile article to improve the resistance to pilling comprised of the steps of:

    (a) Applying an effective amount of a branched chain amine to the surface of the article;
    (b) Heating the article to a temperature between about 200 and 425 degrees F;
    (c) Maintaining the temperature from between about 1 and 60 minutes;
    (d) Optionally, rinsing the article with water; and
    (e) Optionally, dyeing the article by techniques known to those skilled in the art.

77. The process of claim 76, wherein the amine contains between 8 and 14 carbon atoms.

78. The process of claim 76, wherein the amine is selected from the group consisting of aliphatic amines, alkyl amines, and aliphatic substituted cyclic amines.

79. The process of claim 78, wherein the amine is a polyamine.

80. The process of claim 78, wherein the amine is a diamine.

81. The process of claim 78, wherein the alkyl amine is selected from the group consisting of Isodecyloxypropyl-1,3-diaminopropane, Isododecyloxypropyl-1,3-diaminopropane and Isotridecyloxypropyl-1,3-diaminopropane.

82. The process of claim 76, wherein the amount of amine is between about 0.05 and about 5.0 weight percent on weight of the article.

83. The process of claim 76, wherein the amount of amine is between about 0.1 and about 1.0 weight percent on weight of the article.

84. The process of claim 76, wherein the amount of amine is between about 0.2 and about 0.7 weight percent of the article.

85. The process of claim 76, wherein the amine is uniformly applied to the surface of the article.

86. The product of the process of claim 76.

87. The product of the process of claim 77.

88. The product of the process of claim 78.

89. The product of the process of claim 79.

90. The product of the process of claim 80.

91. The product of the process of claim 81.

92. A substituted hydrolyzable polymer, wherein the substitute is a branched chain amine.

93. The polymer of claim 92, wherein the amine includes hydrogen, nitrogen, and carbon atoms.

94. The polymer of claim 92, wherein the amine includes hydrogen, nitrogen, carbon, and oxygen atoms.

95. The polymer of claim 92, wherein the amine contains between 8 and 14 carbon atoms.

96. The polymer of claim 92, wherein the amine is selected from the group consisting of aliphatic amines, alkyl amines, and aliphatic substituted cyclic amines.

97. The polymer of claim 96, wherein the amine is a polyamine.

98. The polymer of claim 96, wherein the amine is a diamine.

99. The polymer of Claim 96, wherein the amine has a molecular weight that varies by less than about 42 atomic units.

100. The amine of Claim 99, wherein the amine has substantially the same molecular weight both before and after chemical reaction with the polymer.

101. The polymer of Claim 92, wherein the polymer is selected from the group consisting of polyester, wool, polylactic acid, and combinations thereof.

102. The polymer of Claim 101, wherein the polyester is selected from the group consisting of polyethylene terephthalate, polytriphenylene terephthalate, polybutylene terephthalate, and combinations thereof.

103. The polymer of claim 92, wherein the polymer is incorporated into a textile article.

104. The article of claim 103, wherein the article is selected from the group consisting of fibers, yarns, fabrics, films, and combinations thereof.

105. The textile article of claim 104, wherein the article is a fabric and said fabric is incorporated into an article of apparel.

106. The textile article of claim 104, wherein the article is a fabric and said fabric is incorporated into an article of bedding.

107. The textile article of claim 104, wherein the article is a fabric and said fabric forms an article of residential upholstery.

108. The textile article of claim 104, wherein the article is a fabric and said fabric forms an article of commercial upholstery.

109. The textile article of claim 104, wherein the article is a fabric and said fabric forms an article of automotive upholstery.